REMARKS

The attention given by the Examiner to the arguments and the courtesy extended during the interview conducted between the Examiner in charge of this application and applicants' attorney on May 13, 2009 are greatly appreciated.

The Examiner has noted that the module system that comprises an insertion element in Henington et al, discloses only a single conveying member in a given recess on one side (above or below) the conveyor path.

First, as was pointed out to the Examiner, if one were motivated to modify Henington et al for the purpose of increasing the throughput of printed circuit boards being treated, that goal could not be realized by providing a plurality of rollers where Henington et al uses a single roller, or even by providing a plurality of rollers mounted as individual rollers. That is because the printed circuit board 14 of Henington et al moves at a constant speed (column 6 line 35), with both axles driven by a motor (column 11 lines 1-3 and Fig. 7D). The number of rollers used can have no effect on throughput. Only by speeding up the rollers can Henington et al increase throughput. Thus, if it is considered obvious to try to increase throughput, in no way can such be accomplished by providing a plurality of rollers, each in their own individual slots, or a plurality of rollers together in a mechanism carried in the same slot.

In the interview discussion with the Examiner, this was pointed out, and the Examiner raised the question that, notwithstanding that the goal of increasing throughput would not be realized, is there any unexpected result, criticalility or the like that is realized in accordance with the present invention by having a plurality of conveying members carried in a single module system insertion element, which is not disclosed in, or obvious from Henington et al.

The answer is yes, there is.

First, as was explained to the Examiner during the interview, a repetition of some background for the present invention may be helpful.

Henington et al is representative of prior art in this field, whereby printed circuit boards are processed through an apparatus, conveyed on rollers, and sprayed or otherwise treated, with treatment fluid or the like. The rollers that provide the conveying are individually mounted in narrow slots or recesses, as are shown, for example in Figs. 7C and 7D of Henington et al.

In Henington et al the devices for chemically treating the workpieces are not carried in

slots or recesses as are the rollers of Henington et al, but those treatment devices, such as 16, shown in Fig. 1 are separately carried on the horizontal carrier elements, in a manner unrelated to being carried in slots.

The instant invention, to the contrary, is one whereby rapid and efficient interchangeability of modules is provided for the first time, such that, without requiring reworking of the horizontal bars that comprise the carrier elements, if one desires to change from treating a thick printed circuit board, for example, to a very thin printed circuit film, for example, or if one desires to change the nature of the treatment fluid, acids, rinse water, etc., it is very efficient and easy to do so with the present invention, in that one can simply lift out of a recess a given module system in the form of an insertion element (which insertion element carries conveyor rollers or wheels, a treatment device, or a combination thereof), and take a different module comprising an insertion element having different features, and drop the same into the same recess, and to then do the same with other insertion elements with respect to other recesses in the apparatus, and the treatment unit then can handle a different type of workpiece, or can treat a different type of workpiece in a different manner with different treatments.

With that background, it will be appreciated that a critical feature of the present invention, intimately related to the rapid interchangeability of insertion elements for accommodating different types of printed circuit boards/films, and different treatment devices, is that, for example, when a change is desired from a reasonably thick printed circuit board to be treated, to accommodate a very thin printed circuit film, for example, as is addressed in the specification of the instant application on page 6 lines 25-27 and on page 16 lines 4-7 and 27-29, the phenomenon can occur that the very thin printed circuit film can have a tendency to wrap around a conveyor roller or wheel, following the path of the rotating roller or wheel, rather than following a horizontal path, and that, by having a plurality of such conveyor members, of at least two in number, and perhaps a greater number, on one side or the other of the conveyor path, as is shown for example, in Fig. 11 of the instant application, the tendency for such thin film to wrap around an initial roller of the insertion element is avoided, because of the very close location of at least one other conveyor member on one side of the conveyor path which is made possible by having multiple conveyor members carried by a given insertion element. Thus, this insertion element does not give an opportunity for the very thin film to wrap around a roller or other conveyor member.

Also providing an enhanced benefit, is the fact that all of the recesses or at least groups of recesses have the same shapes and dimensions, whether they are carrying conveying rollers or treatment devices or both a treatment device and a roller. This, again, provides greater flexibility. This is unlike Henington et al, where the treatment elements are not carried in insertion elements/module systems that go into the same recesses as the rollers, or even are capable as being placed in recesses of Henington et al.

Accordingly, the present invention provides a great deal of flexibility and interchangeability, in no way disclosed in Henington et al, nor suggested in any way in Henington et al, nor even possible with Henington et al, because the recesses of Henington et al are designed to be very thin dimensionally, allowing for receipt of only a single roller shaft, as at 114 in Fig. 7C of Henington et al.

The present invention teaches one to use the recesses to accommodate a plurality of functions, and to allow for an interchangeability of modules of insertion elements that have different capabilities, including the ability to carry a plurality of conveying members, which is especially useful when handling very thin printed circuit film, while avoiding the tendency of such film to wrap around the very rollers that are conveying it. But the teaching of the present invention should not be the stimulus for modifying Henington et al, because as the Federal Circuit has stated, in many cases, and as the U.S. Supreme Court stated in the decision of KSR International v. Teleflex Inc., 550 U.S. 398, 421 (2007):

> A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* facto reasoning.

The Court then referred to Graham v. John Deere Co., 383 U.S. 1, 36 (1996) for "warning against a 'temptation to read into the prior art the teachings of the invention in issue' and instructing courts to '"guard against slipping into the use of hindsight."'"

It is believed that all of the above establishes that the difference between the present invention as claimed, and Henington et al, is not merely a matter of duplication of parts, but that there is provided a very different claimed invention that includes the provision of a plurality of conveying members carried by a single insertion element assembly, on a given side (upper or lower) of the conveying path, that answers a critical need in handling very thin printed circuit films or foils, without enabling them to wrap around a conveying member, and thereby go

outside the generally horizontal conveyor path.

Reconsideration of the rejection and allowance of the claims of the instant application are respectfully solicited.